August 2004 North American Drought Monitor

CANADA: Cool and wet conditions characterized the weather that dominated the agricultural landscapes in much of Canada during August. Northern Boreal regions in western Canada continued to experience drier than average conditions or did not receive enough precipitation to improve the overall drought status. Data is very sparse for the northern Territories including the Yukon, Northwest Territories and Nunavut, and drought definitions are not established; but, precipitation amounts were reported to be below 70 percent of average for the past 12 months and near 50 percent of average for the past five months.

Much of British Columbia, with the exception of the northeast Peace River region and Skeena Basin, has recovered from drought conditions that began in the spring of 2003. The extreme northeast region of BC remained in a severe drought rating as does northern Alberta and much of the northwest boreal region of Saskatchewan. Abnormally dry to moderate drought conditions continued in some eastern locations of Alberta, which are remnants of the prolonged drought conditions in the region and slightly below average precipitation during the past growing season. These conditions are reflected by groundwater, some surface water, and forage supply issues. Most natural runoff volumes in Alberta ranked between the ninth and 30th lowest in 91 years of record this growing season; however, water storages in most major reservoirs were average or above average.

In agricultural regions of Saskatchewan and Manitoba, warm dry weather is needed to complete this year's harvest. Drought is not a factor impacting crop production. The northern regions of Manitoba range from abnormally dry to moderate drought.

Most agricultural regions of Ontario and Quebec reported average or better moisture conditions, and harvest will be late this year.

Abnormally dry conditions continued to categorize parts of New Brunswick, Prince Edward Island, Newfoundland and eastern and Annapolis Valley regions of Nova Scotia, although there were no reports of adverse impacts.

UNITED STATES: Several major events occurred during August that affected the drought and dryness areas across the United States. The month saw a new August record of eight "named" tropical cyclones in the North Atlantic, Caribbean Sea, and Gulf of Mexico (breaking the old record of seven set in 1933 and 1995), and several of these storms affected the eastern United States. Hurricane Alex passed within 10 miles of Cape Hatteras, NC, on August 3; Tropical Storm Bonnie moved onshore near Appalachicola, FL, on August 12; Hurricane Charley struck the west coast of Florida north of Fort Myers on August 13, came ashore again near Cape Romain and North Myrtle Beach, SC, on August 14; and Tropical Storm Gaston moved onshore near McClellanville, SC, on August 29. Hurricane Frances was located northeast of Puerto Rico when August ended. As a result of the rains associated with these storms, much of the East Coast had above-normal precipitation during August. The exception to this

pattern was an area along the Georgia-South Carolina border where long-term precipitation deficits remain.

August was a cool and slightly dry month across the Great Lakes states, causing an expansion of dryness in scattered areas of this region. Minnesota, for example, had its coolest August on record. The Twin Cities area averaged between 5-7F degrees below normal for the month, yet received less than 50% of normal precipitation for the month as well.

In contrast, August was warm and wet across the Pacific Northwest, causing a significant improvement in the drought and dryness conditions in this region. Cooler temperatures moved into the Northwest and Northern Rockies at the end of the month, producing a sharp reduction in the wildfire danger for the region. Overall, August was the ninth warmest and second wettest August on record for Washington.

Across the rest of the West, August had above-normal precipitation in eastern Colorado and western Wyoming, improving the long-term drought conditions in these areas. Unfortunately, precipitation was normal or below-normal across much of the Southwest, causing conditions to remain in the long-term drought situation for the region.

In Alaska, many locations recorded their warmest summer on record (Fairbanks and Anchorage included). Unfortunately, August capped an already dry summer with many areas reporting near-record (Valdez and Yakutat) or record low (Fairbanks) totals for the month. The prevalent heat and dryness have been responsible for a very active fire season this year across Alaska. As of early September, a record number 6.4 million acres have burned so far this year.

MEXICO: Although August total precipitation was very close to the long term national average (137.7 mm vs 137 mm, respectively) according to preliminary data from the National Meteorological Service (SMN), an increase in drought conditions was observed in most of the southeastern and western parts of the country. During August, showery weather with some heavy rainfall events were concentrated across northern and central Mexico, while abnormally dry (D0) to moderate drought (D1) conditions in Baja California spread southward into Baja California Sur. Abnormally dry conditions (D0) also increased along the Pacific coast from Nayarit southward into Guerrero. This dryness along the southwest coast of Mexico was due, in part, to decreased tropical storm activity near the coast and a southward suppressed ITCZ. Along the Gulf of Mexico watershed, an abnormally dry region developed near Campeche Bay last month, and this dryness spread all along the Gulf coast, from central Tamaulipas through Veracruz and into Tabasco. Another dry region developed from southern Chiapas into most of the Yucatan Peninsula. This pronounced dry trend indicated that the mid-summer drought, locally termed “canicula”, was more intense than average. Finally, the moderate to extreme drought (D1 to D3) confined in northeastern Sonora and western Chihuahua remained almost unchanged as a persistent northeast flow across this region tended to suppress the spread of moisture northward from the main monsoon region of central Mexico. A series of unusually strong summer cold fronts entered far northern Chihuahua

and Coahuila during the month, helping to trigger widespread heavy rainfall across this northern border region of Mexico.